



Quality Standards for Work Zone Traffic Control Devices 1997



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Introduction

Traffic controls are a necessary part of highway work zones to warn motorists of hazards, advise them of the proper path through the zone, delineate areas where they may not operate, and separate them from the workers. This is accomplished by the deployment of a system of "devices." The success of this system depends on the quality of each device and its placement. Quality could easily be controlled by requiring all devices to be new at the time of the project's initial installation. This, however, would not be in the best interests of controlling costs and reducing waste. This standard does not apply to *new* devices, but should aid in finding the quality of *used* devices.

The normal, temporary use of work zone traffic control devices subjects them to wear that does not occur to permanent devices. Much of this wear may be due to carelessness during the storage, shipping, relocating and removal of devices which causes much of the deterioration in appearance. Whenever a high percentage of these worn and damaged devices appear on the same project, the general appearance of the work zone leaves much to be desired and can lead to the potential loss of motorists' confidence and compliance.

This standard has been developed in an effort to offset the deterioration in appearance of work zones. A determination of quality should be made at several stages:

- While in storage,
- During preparation for delivery to the work zone,
- During initial setup, and
- Periodically during the course of the work.

Suppliers and contractors are encouraged to apply this standard prior to delivery of devices to the job site. Doing so will minimize department involvement and reduce costs related to on-site replacement.

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Quality Classification and Requirements

The quality of work zone devices in this standard has been divided into three categories:

- Acceptable,
- Marginal, and
- Unacceptable.

At the time of the initial setup or at the time of major stage changes, 100 percent of each type of device (cones, channelizers, barricades, vertical panels, or signs) shall be acceptable. Throughout the duration of the project, the percentage of acceptable devices may decrease to 75 percent, only as a result of damage and/or deterioration during the course of the work.

Acceptable

Devices that meet the requirements for "acceptable" classification (as detailed later in this standard), and that meet all other requirements (such as design, size, color, weight, etc. in the plans and specifications) shall be determined to be acceptable for use on highway construction or contract maintenance projects.

Marginal

Devices that meet the requirements for "marginal" (as detailed later in this standard), but which meet all other requirements, may remain in the work zone until it is determined that 25 percent of that type of device has become marginal, or until it is determined that they have become unacceptable.

Unacceptable

Devices in this category (as detailed later in this standard), shall not be delivered to the job site. When found in the work zone, they shall be immediately removed and replaced.

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Application of This Standard

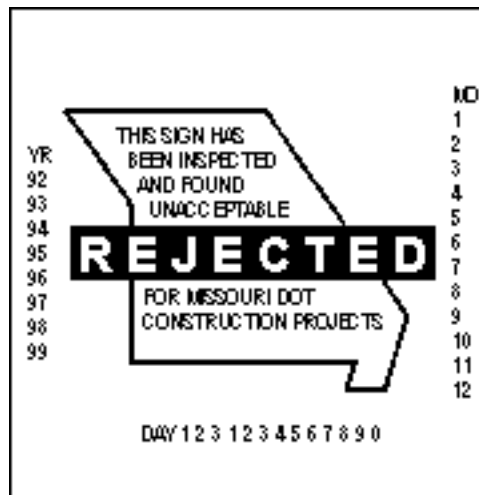
Quality Standard for Work Zone Devices

Only signs, barricades, vertical panels, channelizers and cones that meet the requirements of the department's "Quality Standard for Work Zone Traffic Control Devices - 1997" shall be used on the project. Copies of this publication are available from the Division of Construction for the contractor's use prior to the initial setup. Work shall not begin until a determination has been made that the traffic control devices meet the quality required in this standard. Any traffic control devices which become defective due to damage or defacement shall be replaced by the contractor. All traffic control devices shall be kept clean and neat appearing. The engineer shall be sole judge as to the acceptability of placement and maintenance of all traffic control devices. Compliance with this requirement will be considered incidental to the contract and no extra compensation will be allowed.

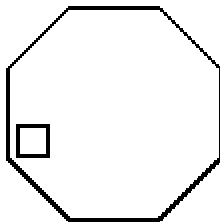
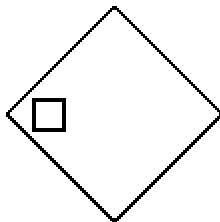
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Rejected Stamp

On the following pages are examples of traffic control devices in **acceptable**, **marginal**, and **unacceptable** condition. Any device which is unacceptable should be removed and replaced within **24** hours after being found unacceptable. The "rejected" decal is to be affixed to any unacceptable sign with the year, month, and day punched to indicate the date the decal was applied to the sign.



R11-52 REJECTED Decal



1. On the diamond shaped signs, place the decal on the left most area of the sign.
2. On octagonal shaped signs, place the decal on the left and lower most area of the sign.
3. On square and rectangular signs, place the decal on the left and lower most corner of the sign.

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Work Zone Signs

This standard applies to signs in all classifications (warning, regulatory and guide) that are furnished by a supplier, subcontractor or contractor to be used for traffic control in work zones. This evaluation guide is to be used to evaluate the quality of the sign face only. No mention is made of dents, bends, or other deformations. If any sign is bent to the extent that its shape is non-standard or a portion of the sign itself is missing, such as a plywood sign with a broken corner, the sign shall be determined unacceptable.



Acceptable

An acceptable sign may have several abrasions on the surface but very little loss of lettering. There shall be no touchup of the lettering.



Marginal

A marginal sign may have many surface abrasions throughout the sign face with many being within the individual letters of the message. This sign surface shall be free of any residue. Although some color fading may be evident the background color and reflectivity are still apparent at night.



Unacceptable

An unacceptable sign would be a sign with asphalt splatter or cement slurry of an amount similar to abrasions that are evident throughout the face of the sign. Some letters have a loss of more than 50 percent, and there is noticeable color fading.

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Barricades and Vertical Panels

This standard applies to Type I, II and III barricades and vertical panels that are furnished by a supplier, sub-contractor, or contractor for traffic control used in work zones. The evaluation guide below is to be used to evaluate the quality of the reflectorized portion of barricades and vertical panels. In addition to this evaluation, barricade supports must also be evaluated. Any one combination of the following will cause a barricade to be unacceptable.

- Deformation of the support assembly to the extent that the barricade panel is not parallel to the roadway surface
- Bent or twisted legs
- Rusty metal parts
- Unpainted wooden rails



Acceptable

This panel is not new. There are several abrasions on the surface, but very little loss of reflective sheeting. The orange is vivid and the stripes provide contrast.



Marginal

A marginal panel may have numerous surface abrasions throughout the panel surface. Some color fading is evident; however, it is free of large areas of residue or missing reflective material. The colors, stripes, and reflectivity are visible and discernible.



Unacceptable

An unacceptable panel has a surface which is marred on a high percentage of the panel area. There is noticeable loss of reflectivity and obvious color fading. Colors with asphalt splatter and/or cement slurry or any combination of missing or covered reflective material would also make a panel unacceptable.

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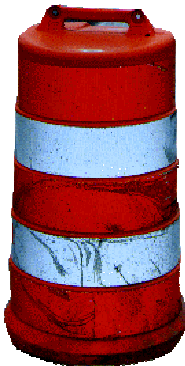
Channelizers

This standard applies to channelizers that are furnished by a supplier, sub-contractor or contractor for traffic control in work zones. The evaluation guide below is to be used to evaluate the general appearances of channelizers. In addition, channelizers that are dented severely enough to affect their overall dimensions or contain fractures that affect their stability or ability to retain the reflective sheeting are unacceptable.



Acceptable

This channelizer is not new and has only minor tears and scratches in the reflective sheeting. Dents in channelizers which do not seriously reduce the reflectivity will also be considered acceptable.



Marginal

The sheeting in this channelizer has some discoloration and scratches. However, it is free of large areas of residue or missing reflective sheeting. A dent in a channelizer which does not reduce the effectiveness of reflectivity or channelizer strength will be considered marginal.



Unacceptable

This channelizer shows several areas of missing reflective material and a large dent which makes this channelizer unacceptable. Channelizers with asphalt splatter and/or cement slurry or any combination of missing and covered reflective material, similar in area to the missing reflective material would also make a channelizer unacceptable.

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Cones

This standard applies to cones that are furnished by a supplier, sub-contractor or contractor for traffic control in work zones. The evaluation guide below is to be used to evaluate the general appearance of cones. In addition, cones that contain fractures that affect their stability or ability to maintain their placement are unacceptable.



Acceptable

Although it is not new, the surface of this cone is free of punctures, abrasions and the color is bright. The surface may be dirty, but will readily respond to washing.



Marginal

The surface of this cone is dirty and may not be readily cleaned due to abrasion and discoloration.



Unacceptable

The large areas of staining makes this an unlikely candidate for improvement. Large areas of asphalt splatter and/or cement slurry would also make a cone unacceptable.

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Acceptable Sign Covering Practices

The following photographs show acceptable method of covering work zone signs when they are not applicable to the existing condition. The entire face of the sign shall be covered in the event the sign is not applicable.



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Unacceptable Sign Covering Practices

The following photographs show unacceptable methods of covering work zone signs when they are not applicable to the existing condition. These examples show signs that are not completely covered or have coverings that are not secure.

